



State of California -The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
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ARNOLD SCHWARZENEGGER, Governor
JOHN McCAMMAN, Director



June 15, 2010

Kenneth D. Landau
Assistant Executive Officer
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive #200
Rancho Cordova, CA 95670

Subject: Response to request for review and comment on the Aquatic Life and Wildlife Preservation Issues for the Sacramento Regional Wastewater Treatment Plant NPDES Permit Renewal

Dear Mr. Landau:

The Department of Fish and Game (Department) appreciates the opportunity to review the Central Valley Regional Water Quality Control Board (Regional Board) issue paper for the Sacramento Regional Waste Water Treatment Plant NPDES permit renewal. In the proposed permit renewal, Sacramento Regional County Sanitation District (SRCSD) is requesting an increase of its permitted wastewater treatment plant (WWTP) average dry weather discharge flow from 181 mgd to 218 mgd to accommodate future growth in the greater Sacramento area. The Regional Board staff has solicited input to assist in identifying deficiencies in protection of the beneficial uses of the Sacramento River (and the Delta), and potential conflicts with other Agency's programs, as it pertains to the subject discharge. In an effort to help protect public trust resources the Department offers the following recommendations for the identified issues:

Issue 1: Proposed Mixing Zones and Dilution for Aquatic Life Criteria

The issue paper identifies that the chronic aquatic life mixing zone is sized to protect the water body as a whole and is generally larger than the acute mixing zone. The TSD at page 33 states that, "If the total area affected by elevated concentrations within all mixing zones combined is small compared to the total area of a waterbody (such as a river segment), then mixing zones are likely to have little effect on the integrity of the waterbody as a whole, provided that the mixing zone does not impinge on unique or critical habitats."

Comment: The Delta is a highly impacted waterbody with many stressors causing or contributing to adverse impacts. There is high likelihood that an increase in the mixing zone due to an increase in effluent flows to the Sacramento River would negatively impact unique or critical habitats, especially listed species that inhabit the Sacramento River and Delta. Species that may be impacted include State and

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Federally listed species such as threatened Central Valley Spring-Run Chinook salmon (*Oncorhynchus tshawytscha*), Federally threatened Steelhead (*Oncorhynchus mykiss*), Federally threatened Green Sturgeon (*Acipenser medirostris*) and State Species of Special Concern Sacramento Splittail (*Pogonichthys macrolepidotus*) and Central Valley Fall/Late-Fall Salmon [*Oncorhynchus tshawytscha*. (DFG-CNDDDB)

In addition, the issue paper states that USEPA advises that the possible attraction of aquatic life to the plume should be considered. USEPA recommends consideration of meeting acute or chronic water quality criteria at the end-of-pipe (i.e., no dilution) where available data support a conclusion that fish or other aquatic life are attracted to the effluent plume. An additional concern is attracting predators that may use the area around the diffuser as a gauntlet for passing aquatic life. The TSD at page 33 states, "While most toxic effluents are repulsive, caution is necessary in evaluating attractive mixing zones of known effluent toxicity, and denial of such mixing zones may well be appropriate. No specific data is known regarding whether aquatic life is attracted to the plume for the SRWTP discharge. However, the area around the outfall is known to be popular for fishing."

Comment: Department Fisheries Biologists have stated in previous comments to the Regional Board that manmade flows such as effluent discharge attract fish. The Department supports USEPA findings and recommends that acute and/or chronic mixing zones not be allowed and that conditions be set to meet Basin Plan Objectives allowing for no toxicity in the discharge.

Issue 2: Ammonia

The issue paper states that ammonia levels in the Delta are a concern due to the toxicity of ammonia and the effect ammonia can have on dissolved oxygen levels and that the removal of ammonia is both technically feasible and commonly employed by most dischargers in the Central Valley Region.

Comment: The Department supports the current USEPA 1999 ammonia criteria for acute and chronic toxicity and at a minimum suggests that the Regional Board evaluate the need for an effluent limit based on these criteria. In addition, and in recognition of the newly proposed USEPA 2009 ammonia criteria and the protection of freshwater mussels, the Department suggests that the Regional Board make an evaluation of WWTP discharge data within the mixing zone and compare it to the most stringent 1999 criteria and the proposed 2009 criteria to determine which criterion should be used as a foundation for an effluent limit.

Additionally, the Department supports continued ammonia studies and recommends that requirements for support towards future scientific efforts be included in the permit.

Issue 3: Low Dissolved Oxygen

Comment: The Department supports compliance with the dissolved oxygen Basin Plan Objective of not less than 7 mg/L.

Issue 4: Thermal Conditions

Comment: Pending a determination by the National Oceanic and Atmospheric Administration, the Department recommends the permit require compliance with the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan).

Issue 6: Whole Effluent Toxicity

Comment: The Department supports the continued requirement for acute bioassays using 100% effluent and the consideration of rainbow trout (*Oncorhynchus mykiss*), pending the planned additional UCD evaluation, to help ensure the protection of sensitive species. We recognize the emerging issues surrounding pyrethroid pesticides identified in Issue 5 and support the additional requirement for and the use of *Hyaella azteca* in acute toxicity testing.

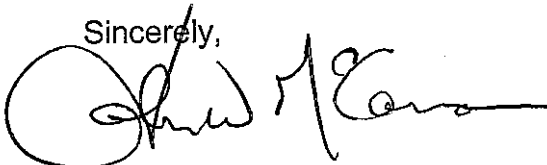
The Department recommends the Regional Board require the hypothesis testing method be used when conducting chronic toxicity testing and that ambient water from upstream of the discharge be used for any dilution series.

The Department supports the current requirement for a narrative effluent limit of "no toxicity allowed in the discharge" and supports the use of a single numeric trigger to require further toxicity evaluation.

In general, there are many studies showing potential for negative impacts to water quality and aquatic life as identified in the issue paper and including ammonia, dissolved oxygen, temperature, and nutrient loading. Since conclusions from some studies are pending and there is evidence of existing studies that identify potential for negative impact to aquatic life and since there are sensitive species in the river and Delta, any determination regarding increased discharge flows must ensure that the protection of aquatic life and wildlife are addressed and enforced.

Again, the Department appreciates the opportunity to review and comment on the issues identified by your staff. Should you have any questions regarding these recommendations or require additional information, please feel free to contact my office.

Sincerely,

A handwritten signature in black ink, appearing to read "John McCamman", written over a large, loopy circular flourish.

John McCamman
Director